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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/710,539	11/09/2000	Benjamin N. Eldridge	276440-3	5812

7590 10/02/2002
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EXAMINER

NGUYEN, SON V

ART UNIT PAPER NUMBER

2839

DATE MAILED: 10/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/710,539

Applicant(s)

Eldridge Etal.

Examiner

Son Nguyen

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jul 16, 2002
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-70 is/are pending in the application.
- 4a) Of the above, claim(s) 22-24, 28-37, 42-47, and 65-70 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21, 25-27, 38-41, and 48-64 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirements.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Nov 9, 2000 is/are a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
- ☐ Interview Summary (PTO-413) Paper No(s). _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other:

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DETAILED ACTION

Request for Continued Examination

1. The request filed on 7/16/2002 for a Request for Continued Examination (RCE) based on Application No. 09/710,539 is acceptable and a RCE has been established. An action on the RCE follows.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the structural features of a beam having a neutral axis running through a centroid of every cross-section and disposed parallel to a line between opposite ends of the every cross-section as recited in claim 1, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-21, 25-27, 38-41 and 48-64 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not supported in the specification in such a way as to

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reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The added subject matter of *a neutral axis running through a centroid of every cross-section and disposed parallel to a line between opposite ends of the every cross-section*, which were not supported in the original specification.

Claim Objections

5. Claims 1-21, 25-27, 38-41 and 48-64 are objected to because of the following informalities:

Claim 1, line 14, applicant should define and clarify what applicants intended by “a neutral axis of said every cross-section substantially greater than one-half of said substantially uniform thickness of said sheet.” Does applicants intend a neutral axis of every (all) cross-sections a long a length of a beam, or a neutral axis of each of every cross-sections is substantially greater than one-half of said substantially uniform thickness of said sheet.

Claim 2, line 2, it is unclear whether applicant intended “a substrate” to be the same as “a substrate” in claim 1, line 4.

Claim 38, line 2, it is unclear whether applicant intended “a sheet of a resilient material” to be the same as “an elongated sheet of said resilient material” in claim 1, line 5.

Appropriate correction is required.

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Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-21, 25-27, 38-41 and 48-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grabbe et al. (US 5,152,695) and Seymour (US 4,772,228).

Regarding claims 1-2, 9, 13, 18-21, 25, 38-41, 48 and 56-59, Grabbe et al. discloses a microelectronic spring structure [10, figures 1 and 3-4] comprising:

- a base [20] formed of a resilient metal material and electrically mounted on a conductive layer formed on a substrate [14];
- a cantilever beam [22, figure 3-4] having a first end integrally connected to the base and a second end opposite to the first end, wherein the first end having a step portion;
- the tip [26] positioned at the second end of the beam;
- the beam has a substantially uniform thickness [figure 3];
- the beam is deflected toward the substrate of at least 10% of an original unloaded height [figures 7 and 9];
- the beam is contoured in both lengthwise and widthwise directions [figure 3]; and
- the beam is free of any overlapping portion and has a generally triangular shape viewed in a direction normal to the substrate.

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Grabbe et al. discloses the instant claimed invention except for the cross section is perpendicular to a length of the beam has a curved/contoured shape and a general V-shape.

Seymour discloses a contact [figure 2] comprises a resilient contact beam [12] having a curved/contoured shape and a general V-shape taken in a direction perpendicular to a length of the beam [figures 2 and 2a].

It would have been obvious to one having ordinary skill in the art at the time invention was made to modify the cross section of the beam of Grabbe et al. to provide the V-shaped cross-section as taught by Seymour in order to facilitate reducing the stresses, deflection and the thickness of the beam.

Regarding claims 3-8, 10-12, 14-17, 26-27, 49-55 and 60-64, Grabbe et al. and Seymour discloses the instant claimed invention except for the beam and the conductive layer comprises various dimensions, materials, springs rates and deflection ranges.

It would have been an obvious matter of the design choice to have the beam and the conductive layer comprises various dimensions, materials, springs rates and deflection ranges, since such a modification would have involved a mere change in the shape and material of a component. A change in shape and material is generally recognize as being within the level of ordinary skill in the art. In re Dailey, 357 F.2d 669 USPQ 47 (CCPA 1966) and In re Leshin, 125 USPQ 416.

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Response to Arguments

8. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son Nguyen whose telephone number is (703) 308-8745.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild, can be reach on (703) 308-2710. The fax phone number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1782.


Son Nguyen

September 20, 2002


LYNN D. FEILD
PRIMARY EXAMINER